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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/726,313	12/02/2003	Ivan V. Mendenhall	AAI-14304	3115

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EXAMINER	
GELLNER, JEFFREY L	
ART UNIT	**PAPER NUMBER**
3643	
MAIL DATE	**DELIVERY MODE**
08/02/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/726,313	MENDENHALL ET AL.	
	Examiner	Art Unit	
	Jeffrey L. Gellner	3643	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11 May 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-31* is/are pending in the application.

4a) Of the above claim(s) *7,8,16,17 and 25* is/are withdrawn from consideration.

5)☒ Claim(s) *18-24,26-29 and 31* is/are allowed.

6)☒ Claim(s) *1-6, 9-15, 30* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

Claim 1 is objected to because of the following informality:

In claim 1, lines 8-10, the language of "a blowing agent the ignition composition" is unclear in meaning.

In claim 18, lines 9-11, the language of "a blowing agent the ignition composition" is unclear in meaning.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-6, 9, and 13-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lauritzen et al. (US 5,626,360) in view of Redecker et al. (US 2001/0042577 A1) in further view of Wilcox et al. (US 5,540,154).

As to claim1, 2, 5, 6, 11, Lauritzen et al. discloses an ignition composition (from abstract) comprising at least about 15% composition weight of a fuel metal (from "25 weight % boron" of col. 5 lines 11-24); an oxidizer ("75 weight % potassium nitrate" of col. 5 lines 11-24); a binder ("binder" of col. 5 lines 25-30); and, an agent ("nitrocellulose" of col. 5 lines 25-30). Not

disclosed is the agent being a blowing agent and the binder being a polymeric binder. Redecker et al., however, discloses using a blowing agent ("ammonium oxalate" of para. 0009); Wilcox et al. disclose using polymeric binder (col. 2 lines 33-37). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the composition of Lauritzen et al. by using a blowing agent instead of nitrocellulose as disclosed by Redecker et al. so as to avoid nitrocelluloses characteristic of decomposition (Redecker et al. at para. 0003) and to use a polymeric binder as disclosed by Wilcox et al. so as to have a binder that has good adhesive qualities at low concentrations (Wilcox et al. at col. 2 lines 33-37). The composition of Lauritzen et al. as modified by Redecker et al. and Wilcox et al. would inherently be capable of associating with a surface of a inflator apparatus and when heated to a predetermined temperature the blowing agent decompose to form a porous igniter of fuel, oxidizer, and binder which would be capable of adhering to the surface of an associated inflator.

As to claims 3 and 4, Lauritzen et al. as modified by Redecker et al. and Wilcox et al. further disclose the fuel being a aluminum and/or magnesium (Wilcox et al. at col 2 lines 23-33). It would have been obvious to one of ordinary skill in the art at the time of the invention to further modify the composition of Lauritzen et al. as modified by Redecker et al. and Wilcox et al. by using Al or Mg as the fuel when high heat of combustion is desired (Wilcox et al. at col. 2 lines 23-33).

As to claim 9, Lauritzen et al. as modified by Redecker et al. and Wilcox et al. further disclose the binder a acrylate polymer (":polyethylacrylate binder" of Wilcox et al. at col 3 lines 1-3). It would have been obvious to one of ordinary skill in the art at the time of the invention to further modify the composition of Lauritzen et al. as modified by Redecker et al. and Wilcox et

al. by using a acrylate polymer as the binder so as to have a binder that has good adhesive qualities at low concentrations (Wilcox et al. at col. 2 lines 33-37).

As to claim 13, Lauritzen et al. as modified by Redecker et al. and Wilcox et al. further disclose the blowing agent with a decomposition temperature of about 130 to 170 C (para. 0009).

As to claims 14 and 30, Lauritzen et al. as modified by Redecker et al. and Wilcox et al. further disclose the associated surface being a portion of the interior surface of the inflator device (generally 30 of Fig. 1 of Lauritzen et al.).

As to claim 15, Lauritzen et al. as modified by Redecker et al. and Wilcox et al. disclose the ignition composition of claim 1 as shown above. Lauritzen et al. as modified by Redecker et al. and Wilcox et al. further disclose the composition applied to the gas generant material (Redecker et al. at para. 0012). It would have been obvious to one of ordinary skill in the art at the time of the invention to further modify the composition of Lauritzen et al. as modified by Redecker et al. and Wilcox et al. by placing the fuse of the surface of the gas generant so as to effectively ignite the material.

Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lauritzen et al. (US 5,626,360) in view of Redecker et al. (US 2001/0042577 A1) and Wilcox et al. (US 5,540,154) in further view of Kinoshita et al. (US 6,976,430 B2).

As to claim 10, the limitations of claim 1 are disclosed as described above. Not disclosed is the binder being hydroxypropyl cellulose. Kinoshita et al., however, disclose an igniter with a binder that is hydroxypropyl cellulose (col. 6 lines 23-33). It would have been obvious to one of

ordinary skill in the art at the time of the invention to further modify the composition of Lauritzen et al. as modified by Redecker et al. and Wilcox et by using hydroxypropyl cellulose as the binder as disclosed by Kinoskita et al. so that the composition can be thoroughly mixed without use of pressure (from Kinoskita et al. at col. 4 lines 60-64).

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lauritzen et al. (US 5,626,360) in view of Redecker et al. (US 2001/0042577 A1) and Wilcox et al. (US 5,540,154) in further view of Yoshida (US 5,883,330).

As to claim 12, the limitations of claim 1 are disclosed as described above. Not disclosed is the blowing agent being aminoguanidine bicarbonate. Yoshida, however, discloses the use of aminoguanidine bicarbonate in an explosive composition. It would have been obvious to one of ordinary skill in the art at the time of the invention to further modify the composition of Lauritzen et al. as modified by Redecker et al. and Wilcox et by using aminoguanidine bicarbonate as the blowing agent as disclosed by Yoshida so that less harmful gas is generated (from Yoshida at col. 3 lines 1-7).

Allowable Subject Matter

Claims 18-24 and 26-21 allowed are allowed over the art of record.

Response to Arguments

Applicant's arguments with respect to claim all claims being examined have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey L. Gellner whose telephone number is 571.272.6887. The examiner can normally be reached on Monday-Friday, 8:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Poon can be reached on 571.272.6891. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Jeffrey L. Gellner
Primary Examiner
Art Unit 3643